

ciently to contact different points on a hub of a top disc in the stack, wherein a first of said members has its distal end angled inwardly toward the center hole, means for biasing the distal end of the first member inwardly away from contacting the hub, means for moving the distal end of the first member outwardly against the biasing means for contacting the hub at the smooth gripping surface, and means for controlling relative movement between the support frame and the stack.

2. The apparatus of claim 1, wherein a second member and a third member are disposed in opposition to the first member to form a triangular section.

3. The apparatus of claim 1, wherein the first member is angled inwardly relative to the other members sufficiently to contact the hub of the top disc in the stack but not the hubs of the other discs in the stack.

4. The apparatus of claim 1, wherein the first member deforms resiliently when contacting the hub of the top disc.

5. An apparatus for separating a single compact disc from a stack of compact discs, wherein each disc has a hub defining a center hole and wherein the center holes in the stack define a central bore having a longitudinal axis, the apparatus comprising:

a support base to support the stack;

a disc pick assembly comprising a plurality of members, the members being insertable into the central bore and wherein at least one of the members is movable to a position such that the member is at an angle to the longitudinal axis and the other members are held in contact with the hub of the discs;

means for moving the members into a position to separate the top disc from the stack when at least two members contact a hub of the top disc in the stack by moving the movable member such that it is biased at an angle to the longitudinal axis and contacts only the hub of the top disc in the stack; and

means for controlling relative movement between the disc pick assembly and the support base along the longitudinal axis.

6. A method for picking a single compact disc from a vertical stack of compact discs, wherein each compact disc has a hub defining a center hole such that the center holes in a stack of compact discs define a central cylindrical bore, comprising:

providing a picker module having at least two members having a smooth gripping surface and being vertically disposed in opposition to each other,

controlling relative movement between the picker module and the stack such that the two members are inserted into the central cylindrical bore and one of said members contacts the hub of a top disc in the stack at the smooth gripping surface,

moving the other of said members away from the one of said members such that the hub of the top disc in the stack is engaged and held on opposite sides by respective members, and

controlling relative movement between the picker module and the stack such that the two members are removed from the cylindrical bore with the engaged disc remaining engaged thereon.

7. The method of claim 6, further comprising:

moving the picker module having the engaged disc to a disc handling position, and

moving the other of said members toward the one of said members such that the hub of the top disc in the stack is released from engagement and dropped.

8. A method for picking up a single flat substrate from a vertical stack of such substrates, each of the substrates having a gripping edge symmetrically disposed in a known position on the substrate, comprising:

providing a plurality of members vertically disposed in opposition to each other,

positioning the members such that all but one member contact the gripping edge, the members extending beyond a top substrate in the stack, and

moving the one member to contact the gripping edge such that only the top substrate in the stack is engaged and held by respective members.

9. The method of claim 8, wherein the one member is angled to contact the gripping edge of only the top substrate.

10. The method of claim 8, wherein the one member is resiliently deformed when contacting the gripping edge of the top substrate.

11. An apparatus for separating a single compact disc from a stack of compact discs, wherein each disc has a hub defining a center hole and wherein the center holes in the stack define a central bore having a longitudinal axis, the apparatus comprising:

a support base to support the stack;

a disc pick assembly comprising a plurality of members, the members being insertable into the central bore;

means for moving the members into a gripping position to grip a top disc of the stack solely by exerting a radial force on the hub of the top disc, the members being resiliently deformable when contacting the hub and the members being extended into the bore beyond the top disc; and

means for controlling relative movement between the disc pick assembly and the support base along the longitudinal axis.

12. The apparatus of claim 11 wherein the members in the gripping position grip the top disc when one member is angled inwardly relative to the other members to contact the hub of the top disc only.

13. An apparatus for separating a single compact disc from a stack of compact discs, wherein each disc has a hub defining a center hole and wherein the center holes in the stack define a central bore having a longitudinal axis, the apparatus comprising:

a support base to support the stack;

at least two members insertable into the central bore beyond a top disc in the stack and movable between an engaged position and a release position, the engaged position being such that the members exert solely a radial force on the hub of the top disc in the stack and the release position being such that the members do not exert a radial force on the hub of the top disc;

means for moving the members between the engaged position and the release position; and

means for controlling relative movement between the members and the support base along the longitudinal axis.

14. The apparatus according to claim 13 wherein the members exert a radial force on the hub of the top disc when one member is angled such that it contacts only the top disc in the stack and exerts a radial force on the hub of the top disc.

15. An apparatus for picking a single disc from a disc stack comprising a plurality of the discs, with upper discs on the stack being directly supported by lower discs on the stack, said apparatus including: